

# Custom Learning Management Systems

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# Overview

- The Operational Support System (OSS) today
- The Custom LMS as part of your e-Learning structure
- Pitfalls in LMS development



# The Operational Support System today



## Major functions of the OSS

- Student account creation
- Role-based user access
- Enrollment
- Course Delivery
- Collaboration
- Course Evaluation
- Testing
- Reports
- Help



# <https://daudev.fedworld.gov/dau/> **Defense Acquisition University**



# Student account creation

- User accounts
- Validation with DEERS or internal table
- Integration with ATRRS database

The screenshot shows a Netscape browser window titled "DEFENSE ACQUISITION UNIVERSITY - Netscape". The address bar shows the URL "https://daudev.fedworld.gov/dau/index.htm". The browser's menu bar includes File, Edit, View, Go, Communicator, and Help. The toolbar contains icons for Back, Forward, Reload, Home, Search, Netscape, Print, Security, Shop, and Stop. The bookmarks bar shows "Bookmarks" and "Location". The page content includes a navigation menu on the left with links to ABOUT DAU, LEARNING RESOURCES, CAREER DEVELOPMENT, ACQ REFORM COMM CENTER, SITE MAP, FEEDBACK, HELP, and LOGIN. The main content area is titled "Create Student Account" and displays "Step 2: Eligibility Verification". It contains a list of instructions for entering profile information, a "Personal Information" form with fields for First Name, Middle Initial, Last Name, Suffix, Organization (a dropdown menu), SSN, Date of Birth, and Email, and a final note about the system generating a list of Quota Sources.

DEFENSE ACQUISITION UNIVERSITY - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: https://daudev.fedworld.gov/dau/index.htm

What's Related

Calendar Email FAQ Forum Glossary Library News Task Search

**Create Student Account**

**Step 2: Eligibility Verification**

- Enter profile information as it would appear in official personnel records.
- Data fields shown in **bold** are mandatory.
- Do not include special characters in the name fields. (ex. apostrophes and dashes)
- The system will attempt to verify the authenticity of all e-mail addresses that are provided.

**Personal Information**

First Name :

Middle Initial :

Last Name :

Suffix :

Organization :

SSN :  (No "-")

Military : ☐ Civilian : ☐ or Other : ☐

Date of Birth :  (mm/dd/yyyy)

Email :  (ex. name@address.gov)

- The system will then generate a list of Quota Sources for you to choose from based on your organization affiliate.
- **Note: Knowing and willful false statements on this form may be punished by fine or imprisonment or both under 18 U.S.C. 1001.**

Document: Done



# Role-based user access provides tailored “desktops” for each user group...

- Security Model
  - User role
    - Administrator
    - Registrar
    - Instructor
    - Student
  - Privilege Model
  - Data filter

DEFENSE ACQUISITION UNIVERSITY - Netscape

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Bookmarks Location: <https://dau3.fedworld.gov/dau/index.htm> What's Related

**Login to DAU Virtual Campus**

Please enter your user name and password:

User Name:

Password:

Login

**Need an Account?**

[Click here to obtain a student account.](#)

**Trouble Signing-in?**

[Click here to retrieve password and additional login help.](#)

**Please Note**

Only registered DAU account holders may enter the DAU Virtual Campus. DoD employees and authorized non-DoD personnel may create an account with the University.

**Important!** After finishing your activity in the Virtual Campus, be sure to log out of the system using the LOGOUT function on the sidebar, especially if you are using a machine available to other people. You will be automatically logged out after 4 hours of inactivity on the Virtual Campus. When logging into the system, the username and password are not case sensitive.

*To enter the virtual campus please be sure that your browser is enabled for Javascript and to accept Cookies.*

[\[Release Notes\]](#) [What's New](#)

VeriSign Secure Site Click to verify

# The enrollment process is automated with business rules that can be tailored...

- Student requests enrollment in course
- Registration manager approves enrollment
- System maintains student course schedule
- Course quotas on enrollment can be applied

Defense Acquisition University - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: <https://daudev.fedworld.gov/dau/desktop/desktop/template1/frame.cfm?badlogin=yes>

Virtual Campus Task News Library Glossary Forum FAQ Email Chat Calendar

[Help Admin] OnLine Course Listing [Reports Report Help]

This report displays a schedule of DAU courses currently being offered. The report can be sorted on any of the displayed fields, to include course number, section number, instructor, school, course start date, and course end date.

- Not all text boxes need to be filled in. Use only the filter criteria you need to retrieve your data.
- Date Range and Fiscal Year selections are mutually exclusive. You may fill in one or the other, but not both.

Step 1: Select a Course  
ACQ101: Fundamentals of Systems Acquisition Management

Step 2: Select a School  
All

Step 3: Select a Location  
All

Step 4: Select a Date Range  
☒ From 12/14/2000 Through (mm/dd/yyyy) FY:   
☐ On Date

Step 5: Select Report output  
☒ Display report on screen only  
☐ Display report on screen and write to file  
☐ Write report to file, but do not display on screen

Step 6: Generate Report





# Course delivery of highly interactive content...

- Bookmarking where student left off

ACQ 101 FUNDAMENTALS OF SYSTEMS ACQUISITION MANAGEMENT - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: [https://daudev.fedworld.gov/Courseware/ACQ101\\_2/lessons/lessonsFrame.cfm?L=a010](https://daudev.fedworld.gov/Courseware/ACQ101_2/lessons/lessonsFrame.cfm?L=a010) What's Related

## TAKE A LESSON

**Lesson 1: Defense Acquisition Workforce Improvement Act (DAWIA)**

**Approximate Length:** 45 minutes

**Lesson Description:**

This lesson outlines the working provisions of the Defense Acquisition Workforce Improvement Act (DAWIA) and introduces you to the acquisition career fields and their associated certification requirements.

**Terminal Learning Objective:**

Given scenarios, you should be able to recognize the working provisions of the Defense Acquisition Workforce Improvement Act (DAWIA) and how this act applies to you as a defense acquisition professional.

**Enabling Learning Objectives:**

1. Recognize how DOD implements the DAWIA.
2. Recognize acquisition positions, acquisition career fields, and the difference between acquisition positions and critical acquisition positions.
3. Recognize the three levels of certification available in all career fields and the need to petition the Directors of Acquisition Career Management (DACMs) for certification recognition.
4. Recognize the qualifications of the Acquisition Corps.

When you are ready to take this lesson, click on the Begin Or Resume Lesson button. You may access this lesson at a later time by selecting "Take a Lesson" from the main menu. If you have not

[MENU](#) [ESSENTIAL INFORMATION](#) [REVIEW RESOURCES](#) [CHECK YOUR STATUS](#)

Document: Done



# The system is “aware” of each student’s progress through the course...

- Tracking of student progress

**Defense Acquisition University - Netscape**

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: <https://daudev.fedworld.gov/dau/desktop/desktop/template1/frame.cfm?> What's Related

**Virtual Campus** Task News Library Glossary Forum FAQ Email Chat Calendar

[\[Help Admin\]](#) **Student Progress Report** [\[Return\]](#)

Displays all students who have enrolled in a specified course, along with their relevant test scores.

List below contains each student's test history. Click on the student's name for more detailed information.

\*\*\* = Student is set inactive and is waiting for instructor override  
 In Progress = The student has started the test, but has not yet finished it  
 Passed = An instructor has overridden the test

Student	Lesson 2 - Systems Acquisition Management: An Introduction	Lesson 3 - Systems Acquisition Management: Introduction to the Acquisition Life Cycle	Lesson 4 - Systems Acquisition Management: Organizations and Acquisition Categories	Lesson 5 - Systems Acquisition Management: Acquisition Reform	Lesson 7 - The Requirements Generation System	Lesson 8 - Work Breakdown Structure	Lesson 9 - Financial Management: Cost Estimation	Lesson 10 - Financial Management: Resource Allocation Process	Lesson 11 - Financial Management: Program Execution
<a href="#">Armstead, Richard J.</a> Current									
<a href="#">Becerra, Becky</a> Current									
<a href="#">Bennett, John</a> Current									
<a href="#">Berry, Eric D.</a> Current	100% (2/3)	100% (3/3)	100% (1/3)	100% (2/3)	100% (2/3)				
<a href="#">Brown, Ronald G.</a> Current									
<a href="#">Brown, Samuel D.</a> Current									
<a href="#">Cadenas, Ric J.</a> Current									
<a href="#">Carter, Karen</a> Current									
<a href="#">Carter, Karen</a> Current				100% (2/3)					
<a href="#">Case, Tara S.</a> Current	100% (1/3)	100% (2/3)	100% (1/3)						
<a href="#">Cole, David D.</a> Current									
<a href="#">Evans, Ernest D.</a> Current	100% (3/3)	100% (2/3)	100% (3/3)	100% (1/3)	100% (1/3)	100% (2/3)	100% (2/3)	100% (1/3)	100% (1/3)

Start Microsoft PowerPoint - ... Defense Acquisition U... 9:45 AM



# Collaboration among professionals is key...

- Library
- News
- Threaded forums

The screenshot shows the Defense Acquisition University (DAU) Virtual Campus website in a Netscape browser window. The browser's address bar displays the URL: <https://daudev.fedworld.gov/dau/desktop/desktop/template1/frame.cfm?>. The website features a navigation menu on the left with links to Desktop, Utilities, Feedback, Search, Reports, Private Area, Collaboration, User Directory, Site Map, Help, and Logout. The main content area is titled "Document Library" and includes a "Sort By" dropdown menu set to "Name". Below the menu, there is a list of documents with their titles, edit/move/delete links, and brief descriptions. The documents listed are: "FLASH 4.0 Information", "Monthly Saved Reports", "Prerequisite Tests", "OSS Director of Acquisition Career Management (DACM) Manual -- THIRD VERSION (August 2000)", "Course and OSS Migration", "DAU Logo", and "Distributed Learning Decision Process".

**Virtual Campus** ▶ Task ▶ News ▶ Library ▶ Glossary ▶ Forum ▶ FAQ ▶ Email ▶ Chat ▶ Calendar

[[Help Admin](#)] **Document Library** [[Add Topic](#) | [Enter WWW Link](#) | [Upload File](#) | [Library Help](#)]

Sort By: [[Name](#) | [Date](#)] [[Files First](#)]

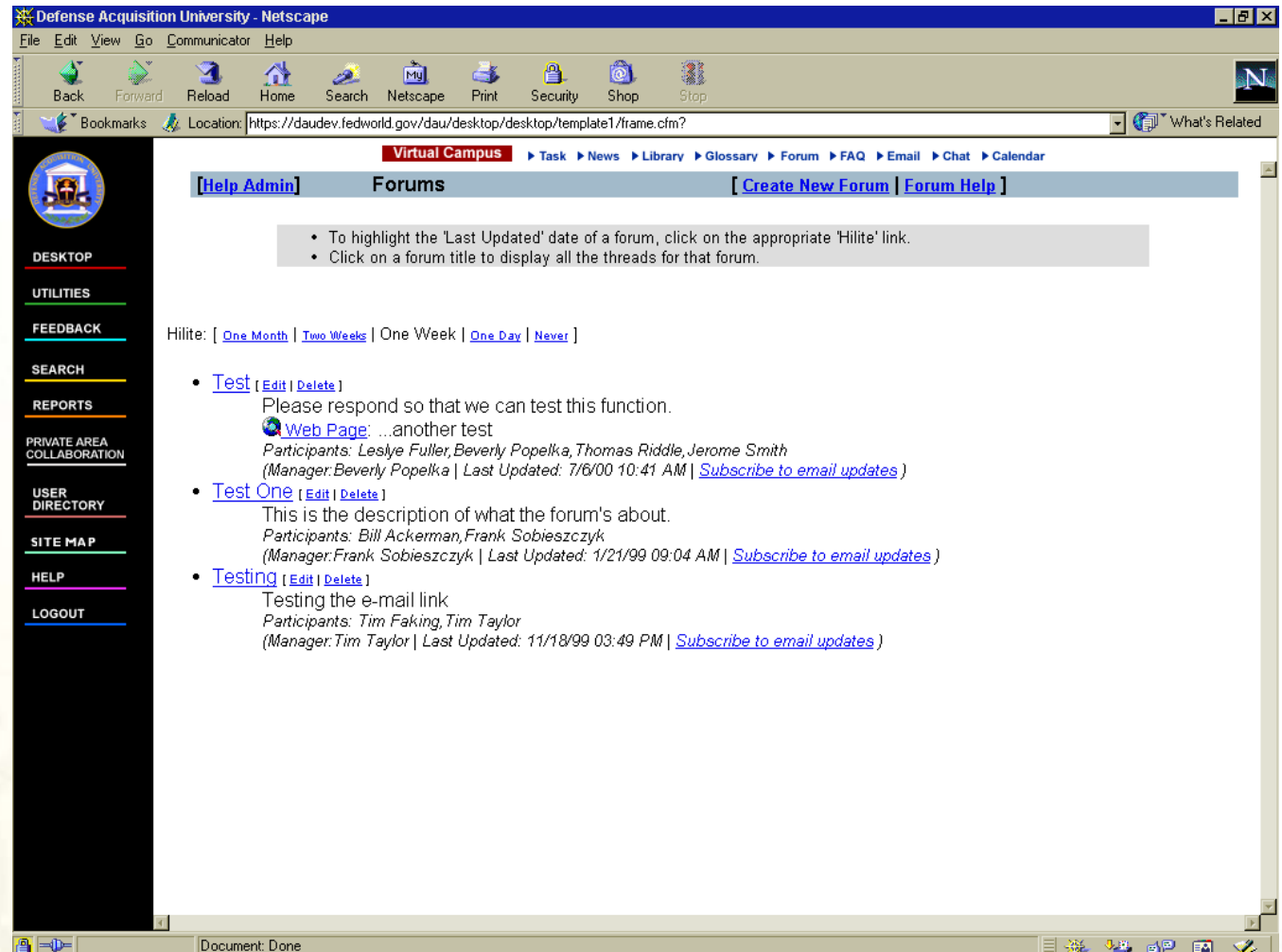
- FLASH 4.0 Information [[Edit](#) | [Move](#) | [Delete](#)]  
Contains information relative to the DAU sponsored FLASH 4.0 Introduction prepared and presented by PerformTech, Inc. 9/30/99
- Monthly Saved Reports [[Edit](#) | [Move](#) | [Delete](#)]  
Enrollment Statistics Report and Student Information Report
- Prerequisite Tests [[Edit](#) | [Move](#) | [Delete](#)]  
This folder contains questions and answers to be given to students who come to class without having completed the appropriate prerequisite.
- OSS Director of Acquisition Career Management (DACM) Manual -- THIRD VERSION (August 2000) [[Edit](#) | [Move](#) | [Delete](#)]  
This folder contains Microsoft Word files for the third version of the DACM's OSS user guide.
- Course and OSS Migration [[Edit](#) | [Move](#) | [Delete](#)]  
This document provides a checklist as well as roles and responsibilities for migrating the OSS and courseware
- DAU Logo [[Edit](#) | [Move](#) | [Delete](#)]  
Graphic of the DAU Logo
- Distributed Learning Decision Process [[Edit](#) | [Move](#) | [Delete](#)]





# The system can be used for project tracking & tasking as well as learner-centric management...

- Calendar
- Tasks
- Email



# Course evaluations are based on multiple dimensions...

- Dimensions

The screenshot shows a Netscape browser window titled "Defense Acquisition University - Netscape". The address bar displays the URL "https://daudev.fedworld.gov/dau/desktop/desktop/template1/frame.cfm?". The browser's menu bar includes File, Edit, View, Go, Communicator, and Help. The toolbar contains icons for Back, Forward, Reload, Home, Search, Netscape, Print, Security, Shop, and Stop. A bookmarks bar is visible below the toolbar. The main content area is titled "Virtual Campus" and features a navigation menu with links to Task, News, Library, Glossary, Forum, FAQ, Email, Chat, and Calendar. The evaluation form itself is titled "BACKGROUND INFORMATION" and contains six questions:

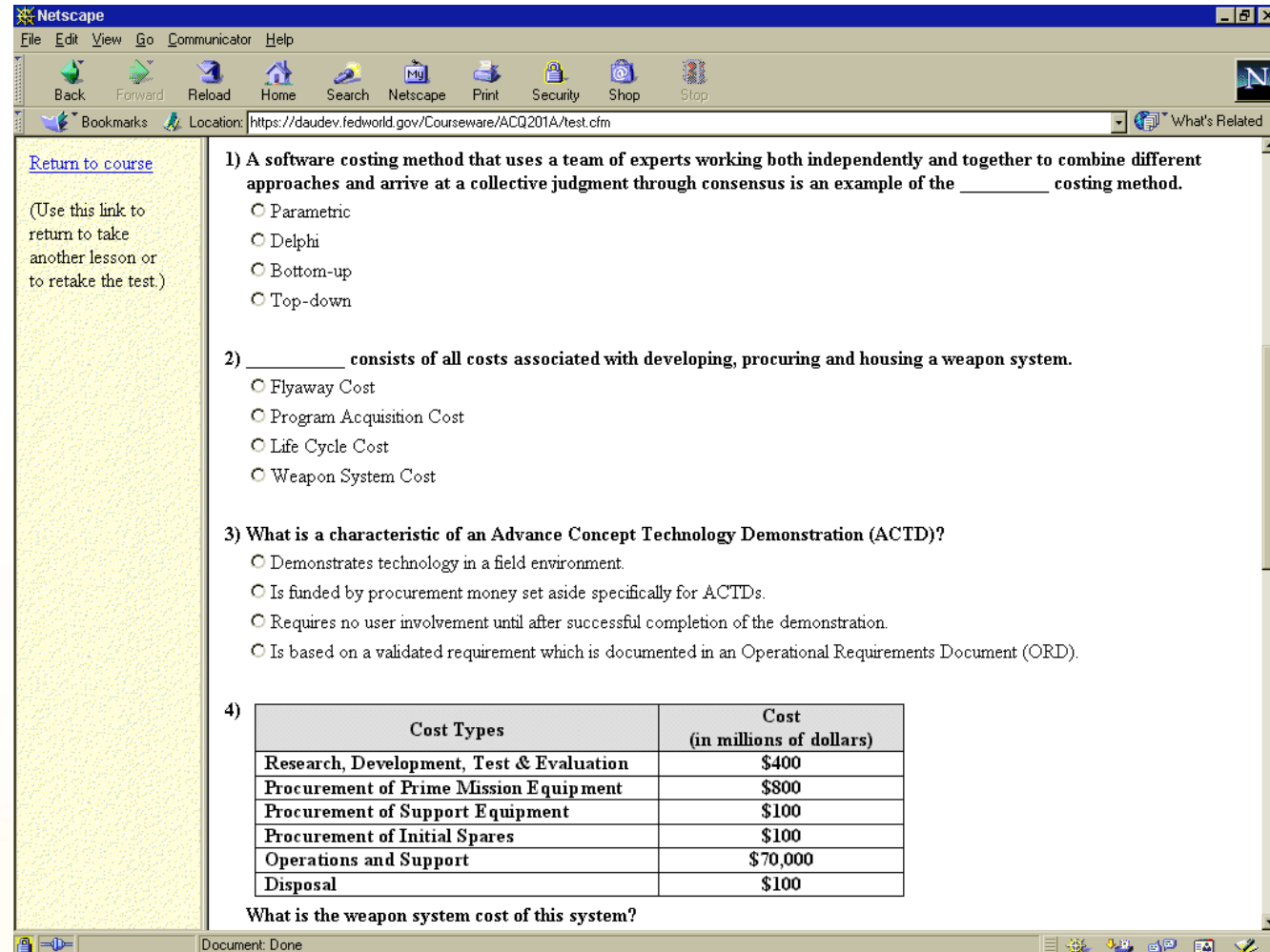
1. What is your primary career field?  
< Select One >
2. Why did you take this course? (check all that apply)  
☐ Certification      ☐ Promotion  
☐ Continuing Education      ☐ Current Job Requirements  
☐ Directed to Attend      ☐ General Information
3. How many years of experience do you have in this field?  
< Select One >
4. What level of certification did you have in this field prior to attending this course?  
☐ None    ☐ Level I  
☐ Level II    ☐ Level III
5. Are you:  
☐ Military      ☐ Civilian Government  
☐ Non-Government
6. What is your primary pay grade or GS grade equivalent?  
< Select One >

The browser's status bar at the bottom indicates "Document: Done".



# We provide a robust test engine...

- Random Test Delivery
- Random answers & distracters
- Images
- Variety of question types
- Retest
- Automatic grading
- Remediation



[Return to course](#)

(Use this link to return to take another lesson or to retake the test.)

1) A software costing method that uses a team of experts working both independently and together to combine different approaches and arrive at a collective judgment through consensus is an example of the \_\_\_\_\_ costing method.

- ☐ Parametric
- ☐ Delphi
- ☐ Bottom-up
- ☐ Top-down

2) \_\_\_\_\_ consists of all costs associated with developing, procuring and housing a weapon system.

- ☐ Flyaway Cost
- ☐ Program Acquisition Cost
- ☐ Life Cycle Cost
- ☐ Weapon System Cost

3) What is a characteristic of an Advance Concept Technology Demonstration (ACTD)?

- ☐ Demonstrates technology in a field environment.
- ☐ Is funded by procurement money set aside specifically for ACTDs.
- ☐ Requires no user involvement until after successful completion of the demonstration.
- ☐ Is based on a validated requirement which is documented in an Operational Requirements Document (ORD).

4)

Cost Types	Cost (in millions of dollars)
Research, Development, Test & Evaluation	\$400
Procurement of Prime Mission Equipment	\$800
Procurement of Support Equipment	\$100
Procurement of Initial Spares	\$100
Operations and Support	\$70,000
Disposal	\$100

What is the weapon system cost of this system?



# Administrative and statistical reporting capabilities...

- Canned reports
- Ad Hoc views
- Search criteria

The screenshot shows a Netscape browser window displaying the 'Graduate Report' page of the Defense Acquisition University (DAU) Virtual Campus. The browser's address bar shows the URL: <https://daudev.fedworld.gov/dau/desktop/desktop/template1/frame.cfm?>. The page features a navigation menu on the left with links to Desktop, Utilities, Feedback, Search, Reports, Private Area, Collaboration, User Directory, Site Map, Help, and Logout. The main content area is titled 'Graduate Report' and includes a description: 'This report displays all students who have graduated from a specified course, along with their name, SSN, job series, grade/rank, branch/MOS, and DoD component. Student contact info also available.' Below this, there are seven steps for filtering the report: Step 1: Select a Course (ACQ101: Fundamentals of Systems Acquisition Management); Step 2: Select a Mode (All); Step 3: Select a Section (All Sections); Step 4: Select a Quota Source (DAU Registrar) with radio buttons for 'This Quota Source and below' (selected) and 'This Quota Source only'; Step 5: Select an Organization (All Organizations); Step 6: Select a School (All); Step 7: Select an Enrollment Date (From [ ] Through [ ] (mm/dd/yyyy) FY: [ ]). The browser's status bar at the bottom indicates 'Document: Done'.

Defense Acquisition University - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Location: <https://daudev.fedworld.gov/dau/desktop/desktop/template1/frame.cfm?> What's Related

Virtual Campus Task News Library Glossary Forum FAQ Email Chat Calendar

[Help Admin] Graduate Report [Reports Report Help]

This report displays all students who have graduated from a specified course, along with their name, SSN, job series, grade/rank, branch/MOS, and DoD component. Student contact info also available.

- Not all data fields need to be filled in. Use only the filter criteria you need to retrieve your data.
- Date Range and Fiscal Year selections are mutually exclusive. You may fill in one or the other, but not both.

Step 1: Select a Course  
ACQ101: Fundamentals of Systems Acquisition Management

Step 2: Select a Mode  
All

Step 3: Select a Section  
All Sections

Step 4: Select a Quota Source  
DAU Registrar  
☒ This Quota Source and below  
☐ This Quota Source only

Step 5: Select an Organization  
All Organizations

Step 6: Select a School  
All

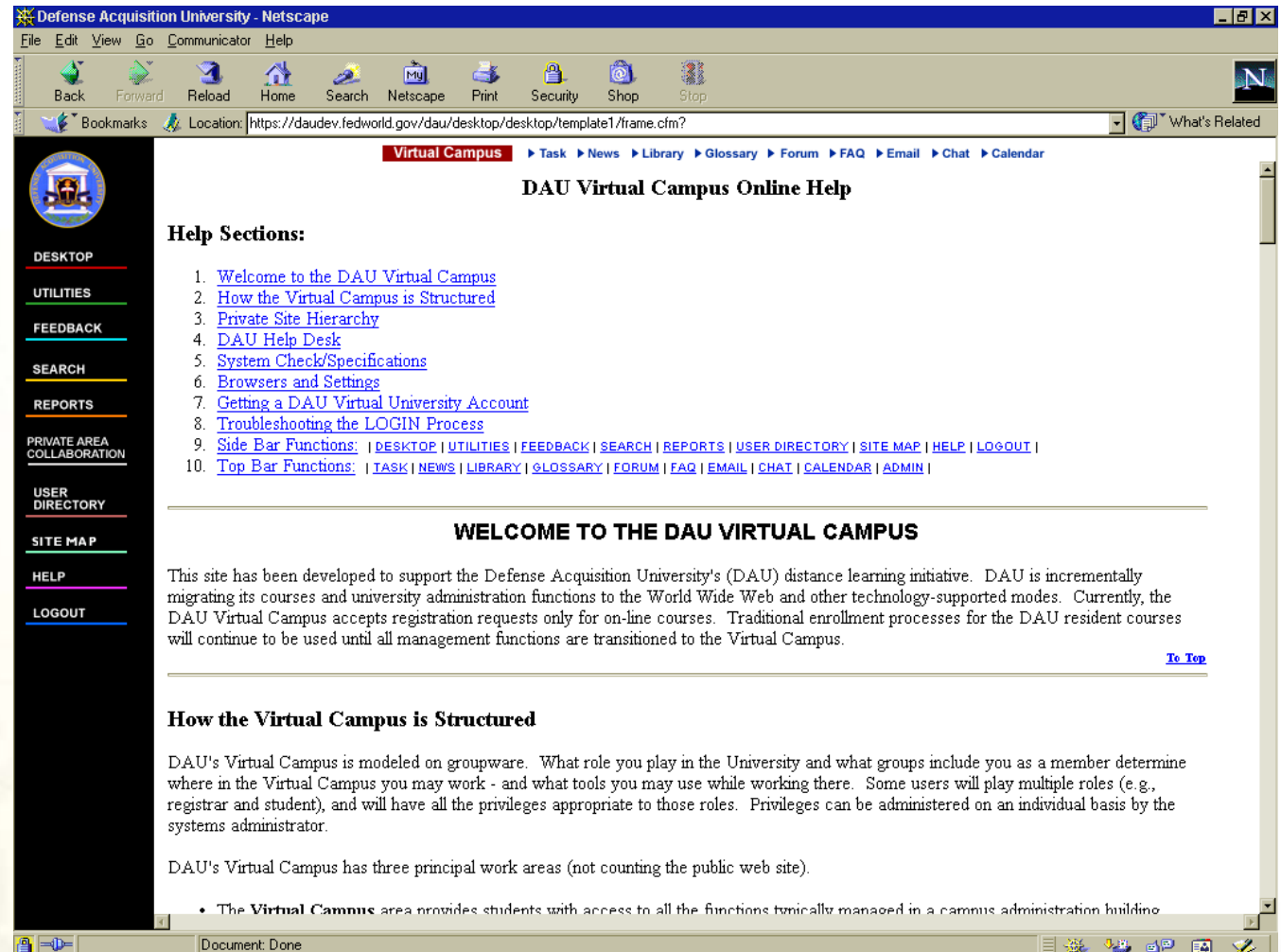
Step 7: Select an Enrollment Date  
☒ From [ ] Through [ ] (mm/dd/yyyy) FY: [ ]

Document: Done



# Technical support services are just a click away...

- Help Desk
- Toolbar
- Page Help





# Feedback forms & user inputs have enabled us to grow & upgrade the system continually for three years...

- Feedback

**Feedback**

Please fill in your information and comments and click "Send."

**Contact Info:**  
Name: WILLIAM HALL  
Email: HALL\_WILLIAM@BAH.COM  
Phone: (703) 902-5207  
Fax:

**Subject:** *Pick a subject or type one in*

☐ Technical  
☐ Instructional  
☐ Course Admin  
☒ Other

**Course:** *If applicable, enter the Course this*  
Course:

**Message:** *Type your message here*

**Feedback**

This tool allows users to send comments, suggestions, or problems to the DAU Help Desk Administrator.

Detailed help on submitting feedback is available from the feedback template. Help Desk staff will respond to each feedback item directly or will create a problem ticket for others to resolve.

The Virtual Campus includes a HELP DESK program. This program tracks problem tickets and documents solutions. Documented solutions are used to build a "Lessons Learned" file (for handling future occurrences of problems). For problems of a more immediate nature, it may be faster to call the DAU Help Desk (toll free: 1-888-432-8218; local: 703-605-6583). To submit Feedback:

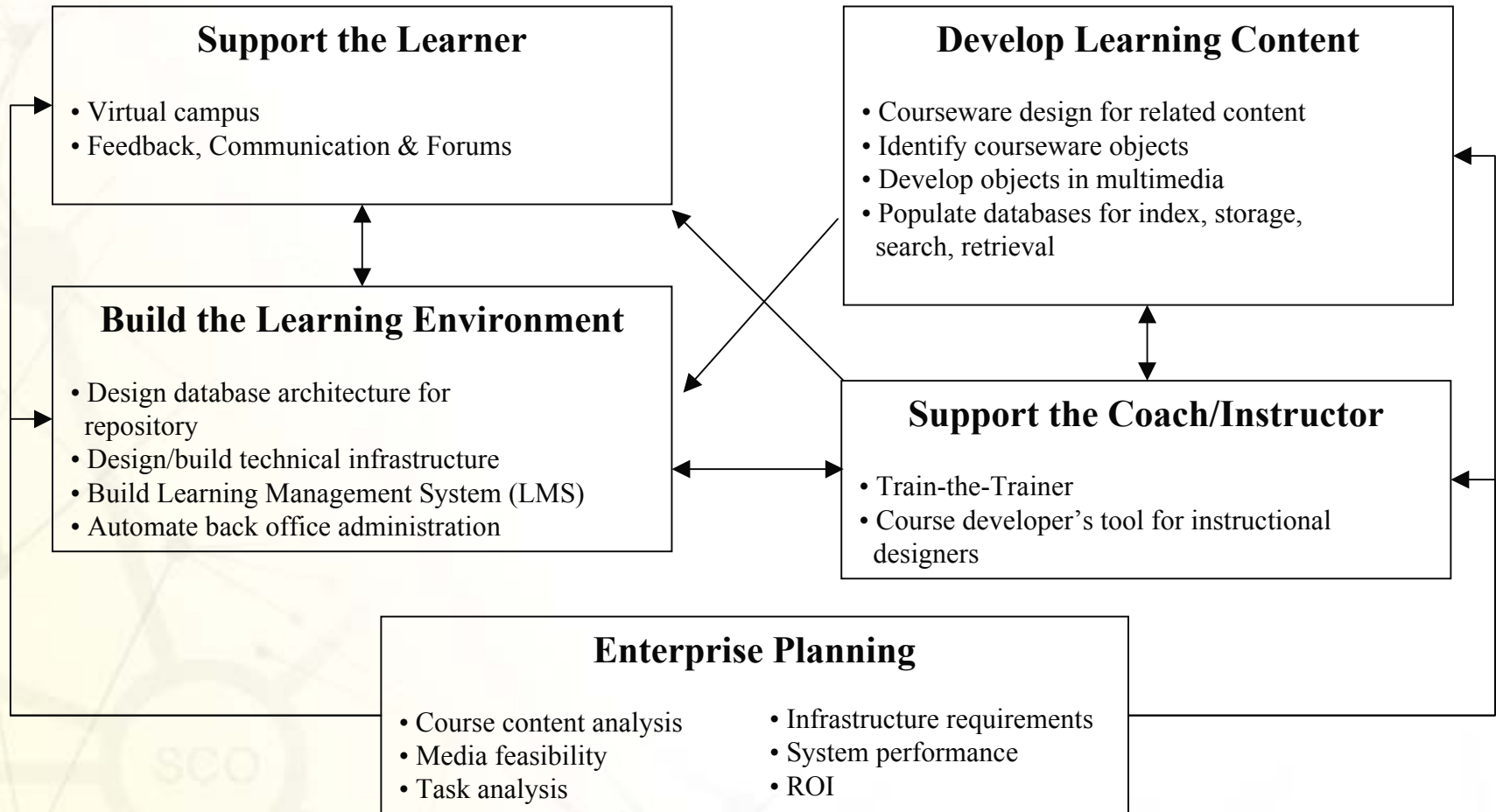
- Select a subject for your feedback. If none of the radio button subjects applies, then select the **Other** button and enter the appropriate subject in the field provided.
- If your feedback is related to a course, enter the course name.
- Enter your feedback in the message field. **Note:** The field allows a maximum of 2000 characters.

# The Custom LMS as part of your e-Learning structure



# What is enterprise e-Learning...

## Enterprise e-Learning solutions are a tight integration of user requirements & technology



How do we implement e-Learning solutions...

## Using the education and training life cycle model

- Analysis
- Design
- Implementation
- Maintenance
- Evaluation



# Pitfalls in LMS development



# Analysis

## To do

- Requirements definition
  - Organization
  - Training
- Requirements to process
- GUI prototyping
- Data diagrams
- Case diagrams
- Activity diagrams
- Class diagrams

## Lessons learned

- Think big--design everything
- Pay for and continue to pay for documentation
- Tell the CEO to wait



# Design

## To do

- Technical Architecture
- Database build
- Finalize process model & move to design phase
- Build test plan
- Code

## Lessons learned

- No design methodology
- No design leader
- Don't build proprietary
- Have an adequate test plan
- Update requirements document



# Implementation

## To do

- Systems test
- Integration test

## Lessons learned

- IPT methodology
- Implementation plan
- Really test
  - Technical
  - Educational





# Maintenance

## To do

- Help system
  - I don't understand the LMS
  - The LMS is broken
  - The courseware is broken
  - I can't do my lesson
- Configuration management
- Customer relationship management

## Lessons learned

- Keep the customer happy
- Plan for this money in the beginning--20 %
- The instructor is not going away--train him/her



# Evaluation

## To do

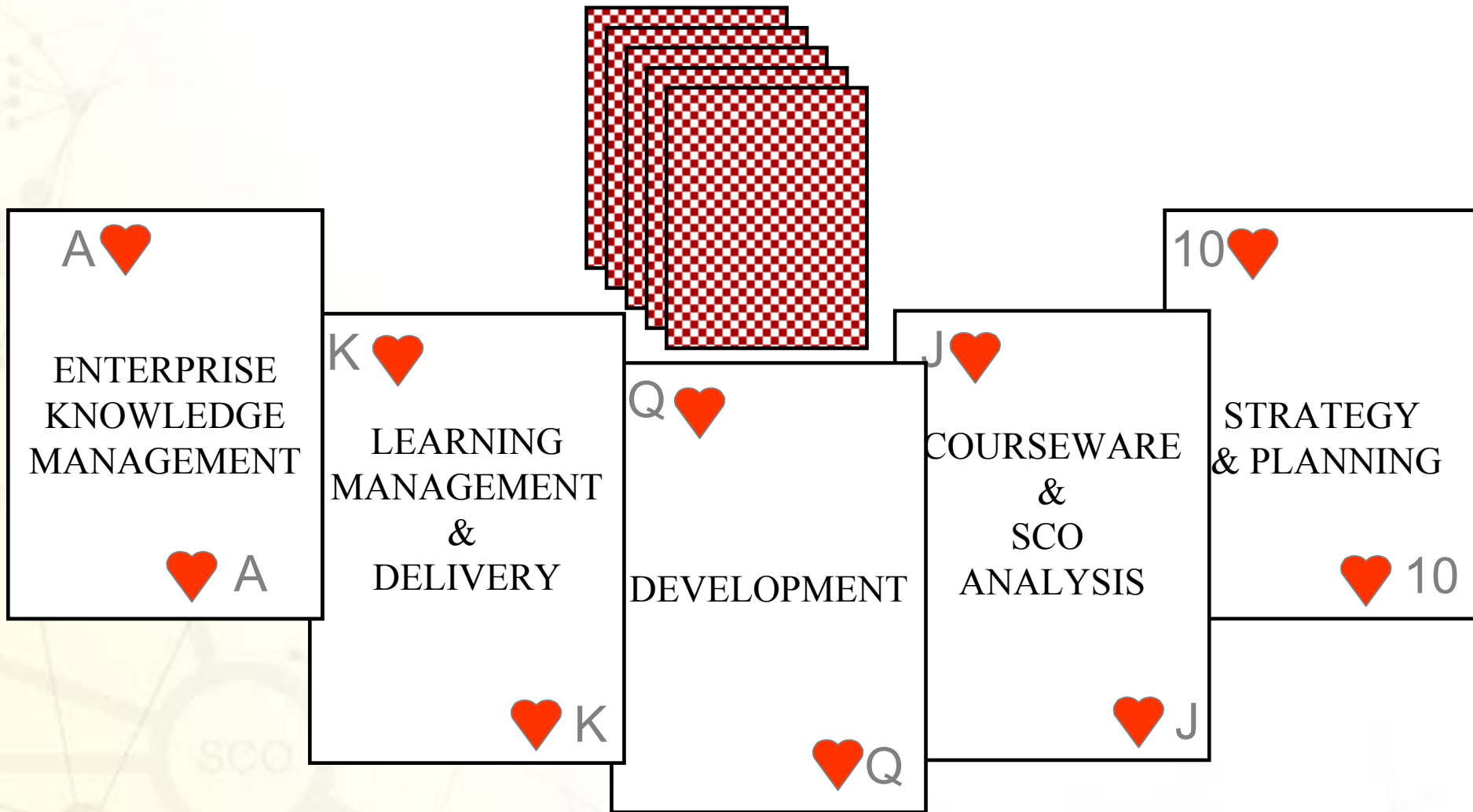
- Course content analysis
- Media feasibility
- Infrastructure requirements
- Return on investment
  - Costs
  - Benefits

## Lessons learned

- Plan in analysis phase
- Continue throughout life cycle
- Involve the user to support customer buy-in



# Enterprise solutions are the future of life long learning!



For more information on how we can help you  
with your enterprise learning solution:

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Enterprise solutions  
hall\_william@bah.com  
(703) 902-5207

Dr. Dianne Jordan  
Technology & education  
jordan\_dianne@bah.com  
(703) 902-4034

